

TITLE OF THE INVENTION

OPTICAL FIBER

BACKGROUND OF THE INVENTIONField of the Invention

5 The present invention relates to an optical fiber which can be suitably used as an optical transmission path and a dispersion compensator.

Related Background Art

10 Fig. 22 is a cross-sectional view of an optical fiber including a so-called microstructure which has been known conventionally. As shown in Fig. 22, this optical fiber has a cross-sectional structure having a large number of voids (vacant holes) 62 in a silica glass 61. A central portion in cross section having no voids 62 constitutes a core region 63 and a portion, surrounding the core region 63, which has a large number of the voids 62 constitutes a cladding region 64.

15 The principle of light confinement of the optical fiber having such a microstructure is explained qualitatively using a concept called effective refractive indices (for example, 20 T. A. Birks et al. Optics Letters Vol. 22 p.961 (1997)). Due to the existence of the microstructure, in a strict sense, the refractive indices in the core region 63 and the cladding region 64 should have a complicate distribution. However, 25 on the assumption that the optical guide characteristics can be approximated by replacing respective regions with

→ This application Claims benefit of Provisional appls 60/246,714, filed 11/09/2000 and Claims 60/246,757, 11/09/2000 & Claims benefits of 60/250,414, filed 11/22/2000.